SYSTEM AND METHOD FOR A DATA-INPUT ARRAY CAPABLE OF BEING SCANNED USING A REDUCED NUMBER OF SIGNALS

ABSTRACT OF THE INVENTION

A system and method for scanning a data-input array (e.g., a keyboard or keypad) using a reduced number of signals is disclosed. Specifically, a switch array is disclosed comprising a plurality of switches and a plurality of input/output (I/O) lines. The switch array is arranged in an N*N matrix. A plurality of N I/O lines is used to scan the matrix. In one embodiment, the switches in the array are arranged in an N*(N-1)/2 configuration. In this configuration, there is no duplication of circuit paths. In another embodiment, the switches in the array are arranged in an N(N-1) configuration. In this configuration, a plurality of diodes are used to identify an activated switch depending upon which of a plurality of signal paths is activated. The plurality of diodes is included to differentiate between pairs of switches that complete the same paths between pairs of I/O lines.